

Wednesday, July 06, 2016 8:42:34 AM

148701

Page 1

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 6/30/2016 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 7/5/2016 **Req'd Qty:** 4.00 ***1***

Customer:

Reference:

Approvals: Process Plan: DAS 21 Date: JUL 11 2016 Poling: _____ Date: _____
OC: 0-89 Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop ***NR2***

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 148701

Wednesday, July 06, 2016 8:42:34 AM

148701

Page 2

Item ID: D3619-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Grommet

Start Date: 6/30/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 7/5/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00				<u>4</u>			JUL 18 2016
130					DAS 6 9-89				
Packaging	Memo	0.00							
Packaging	****Remove supplier paperwork from box.***** Identify and StockLocation: <u>51045</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.07							
Quality Control									

DAS
21
9-89

JUL 19 2016

DAS
21
9-89

JUL 19 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

Wednesday, July 06, 2016 8:42:34 AM

Work Order ID: 148701

148701

Parent Item: D3619-1

D3619-1

Parent Item Name: Grommet

Start Date: 6/30/2016

Required Date: 7/5/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 07-04-09 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
9610K17		Purchased	No			110	Each	0.0000	1	4			
9610K17									**				
GROMMET													

4x 8016-7-18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

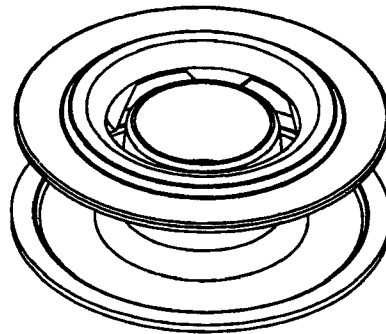
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS				
Date :		Step #:		QTY Effective :		MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				
								Completed By
								Lead hand / Supervisor Approval Verification
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Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	Past Due ☐							



DESIGN <i>LE</i>	DRAWN BY <i>LE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3619	REV. A SHEET 1 OF 1
DATE 07.03.26		TITLE GROMMET SCALE NTS	
REV A	DATE 07.03.26	DESCRIPTION NEW ISSUE	

SPECIFICATION CONTROL DRAWING



RELEASED
07 04 02 #

D3619-X GROMMET,
WHERE X REPRESENTS THE GROMMET TRADE SIZE

DART P/N	TRADE SIZE	DESCRIPTION	HOLE SIZE	MAX. MTL THICKNESS	MCMASTER CARR P/N
D3619-0	0	BRASS GROMMET W/ TEETH	1/4	0.110	9610K16
D3619-1	1	BRASS GROMMET W/ TEETH	9/32	0.120	9610K17
D3619-2	2	BRASS GROMMET W/ TEETH	3/8	0.150	9610K18
D3619-3	3	BRASS GROMMET W/ TEETH	7/16	0.230	9610K19
D3619-4	4	BRASS GROMMET W/ TEETH	1/2	0.300	9610K21

NOTES:

- 1) PURCHASE INFO: MCMASTER-CARR P/N'S INCLUDE THE FOLLOWING:
48 GROMMETS FOR SIZE 0 & 1,
24 GROMMETS FOR SIZE 2, 3 & 4,
D3619-XT1 HOLE PUNCH,
D3619-XT2 STRIKER BLOCK,
D3619-XT3 PUNCH AND
D3619-XT4 DIE
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

SHOP COPY
RETURN TO
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 148701 MJS
16-07-11

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO32990

Purchase Order Date 7/11/2016

PO Print Date 7/11/2016

Page Number 1 of 4

Order From :

MCMaster-CARR SUPPLY CO,
P.O. BOX 7690
CHICAGO, IL 60680-7690
US

VU-MCM001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
JUL 11 2016

Contact Name

Vendor Phone 330 995 5500

Ship To Contact

Ship To Phone

Ship Via: Purolator ground ppd

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 10

Currency

USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	9610K17 AS PER DWG D3619 REV. A B148701	GROMMET	7/13/2016 Yes 7/13/2016		4.00 Each	\$12.90	\$51.60
Line Total:							\$51.60
2	92311A564 AS PER DWG D3533 REV. B B148836	Set Screw	7/13/2016 Yes 7/13/2016		50.00 Each	\$0.23	\$11.65
Line Total:							\$11.65
3	95606A170 AS PER DWG D3631 REV. A B148837	Washer	7/13/2016 Yes 7/13/2016		100.00 Each	\$0.09	\$8.60

Note:

7/11/2016



200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO32990

Order Placed By
Chantal Lavoie

McMaster-Carr Number
5704629-01

Page 1 of 1

07/11/2016

Line	Product	Ordered	Shipped
4	3132T2 Rope with Hook - Not for Lifting, Polyester Cover, 5/32" Diameter, 40' LG.	240 Feet	120

Shipped separately from our Cleveland warehouse on 07/11

1	9610K17 MIL Spec. Two-Piece Grommet Kit, Trade Size 1, 0.687" OD, 48 Grommets with Teeth Washers	4 Each	4
2	92311A564 18-8 Stainless Steel Cup Point Set Screw, 1/4"-28 Thread, 1" Long	1 Pack	1
3	95606A170 Nylon Flat Washer, 7/16" Screw Size, 0.500" ID, 0.688" OD, Off-White	1 Pack	1
4	3132T2 Rope with Hook - Not for Lifting, Polyester Cover, 5/32" Diameter, 40' LG.	240 Feet	120
5	5346K18 Brass Barbed Hose Fitting, Adapter for 3/8" Hose ID X 1/4" NPTF Male Pipe	2 Packs	2
6	6534K72 Industrial-Shape Hose Coupling, Plug, Zinc-Plated, 3/8" NPTF Male, 3/8 Coupling Size	6 Each	6
7	42955A27 Single Cut Carbide Bur with 1/8" Shank Diameter, Tree-Radius End, 1/8" Head Diameter, 1/2" Cut LG.	5 Each	5
8	94675A019 3/8"-16 Pneumatic Nut Insert/Rivet Nut Tool	1 Each	1
9	14025A28 Magnet-Mount Hook, Single-Prong with 1-1/8" Projection, 2-1/4" High	2 Each	2